Indiana New Source Review Program Review

Performed by US EPA Region 5
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Table of Contents

I. Executive Summary

The United States Environmental Protection Agency (USEPA) is performing on-site evaluations of the New Source Review (NSR) Program for all permitting authorities as part of the national NSR Program Evaluation Project. These permit program reviews are intended to highlight the positive aspects of a state's air permitting program, and foster quality improvements for the state and federal air programs. It is expected that this opportunity will not only improve our understanding of Indiana's NSR Program, but also be helpful to other permitting authorities throughout the Region and nationwide.

We conducted the Indiana NSR program review on August 23-25, 2004, concurrent with a review of Indiana's Title V program. The NSR review consisted of two parts: a discussion based on the New Source Program Evaluation Questionnaire and a file review.

We found that the Indiana Department of Environmental Management's (IDEM) NSR program has many strengths, including raising and seeking consistency on issues such as increased utilization and debottlenecking, an excellent permit tracking system, and public notification efforts. We found a few areas which are in need of improvement, such as test method identification in permits and permit notification to USEPA.

II. Introduction

In 2003, as part of its oversight role, USEPA began a four-year initiative to review the implementation of the Title V and NSR permit programs by permitting authorities throughout the country. USEPA developed two questionnaires, one addressing Title V implementation and one addressing NSR, for the Regional offices to use to provide a consistent review. The program review consists of two components: questions about program implementation and criteria for a file review. The purpose of the evaluation was to review the permit programs, note practices that could be helpful to other permitting authorities, document areas needing improvement, and learn how USEPA can help the permitting authority and further improve the national programs.

On August 23-25, 2004, Region 5 staff visited the IDEM offices in Indianapolis, Indiana. USEPA's NSR program review team consisted of Sam Portanova and Genevieve Damico. We provided the questionnaire to IDEM and the state provided us with answers to the questionnaire prior to our visit. During the visit, we discussed in more detail the questionnaire and performed a file

review. The results of these discussions are in Appendices A and B of this report.

This final report summarizes findings and conclusions of the USEPA Region 5 from its review of IDEM's NSR program. The findings and conclusions are based on the answers IDEM gave to the questionnaire, the file review, and USEPA staff's knowledge of the program from experience with reviewing IDEM permits and programs. This information was compared to the statutory and regulatory requirements for federal permitting programs.

III. Description of IDEM's Program

The Office of Air Quality (OAQ), within the IDEM, is responsible for issuing construction permits to assure that all new or modified sources of air pollution will not have a detrimental impact on human health, human welfare, or the environment and will comply with all applicable state and federal requirements. The statutory authority for Indiana's air permit program can be found in the Indiana Code at IC 13-15-1-1. The applicable regulation is 326 IAC Article 2 of the Indiana Administrative Code. The rules in this article require subject persons to obtain permits for certain, identified non-exempt sources of air pollution.

Prevention of Significant Deterioration (PSD)
Indiana has a State Implementation Plan (SIP) approved program for the permitting of major sources in attainment areas. USEPA conditionally approved Indiana's PSD program on March 3, 2003, and subsequently fully approved the program on May 20, 2004. Prior to this time, IDEM implemented the federal PSD program under 40 CFR 52.21 through a delegation of authority from USEPA pursuant to an April 5, 1988, delegation letter.

Nonattainment NSR
Indiana also has a SIP-approved program for the permitting of major sources in nonattainment areas. USEPA approved Indiana's nonattainment NSR program on October 7, 1994. This approval incorporated nonattainment NSR provisions that were established in the 1990 Clean Air Act (CAA) Amendments. Prior to 1994, Indiana had SIP-approval for a nonattainment NSR program implementing pre-1990 CAA requirements.

NSR Reform
On December 31, 2002, USEPA published revisions to the PSD and nonattainment NSR program. These revisions are commonly referred to as "NSR Reform" regulations and became effective on March 3,

2003. Permitting authorities have until January 2, 2006, to submit to USEPA revisions to their PSD and nonattainment NSR programs which implement the new NSR Reform provisions. Indiana submitted these revisions to USEPA for approval on September 2, 2004. This questionnaire focuses on pre-NSR Reform regulation implementation since the NSR Reform provisions were not in effect in Indiana at the time the program evaluation was conducted.[1]

IV. Findings

A. Strengths

Permit Tracking System
IDEM developed a Computer Assisted Approval and Tracking System (CAATS), which is a very effective permit tracking system. Under this system, all permit actions are entered into the CAATS database and linked by source identification number to previous permit actions from the same source. The CAATS system provides permit reviewers quick access to a source's permit history which helps avoid the netting "double counting" issue raised in item I.A.9. of the questionnaire and reduces the chance that multiple minor permits will be issued to the same source in a short period of time (I.J.3. of the questionnaire). The CAATS system also tracks the status of a permit application in IDEM's permit issuance process which allows IDEM to monitor permit backlogs and processing times.

Collocated Source
To help promote consistency on determinations of whether particular emission units are contiguous or adjacent, IDEM has developed a collocated sources checklist (included in Attachment A) to be used by the permit writer. Also, contiguous/adjacent determinations are reviewed by the Policy and Guidance section chief (Doug Wagner) to help assure consistency.

Increased Utilization
Indiana makes an effort to count emissions from increased utilization and has raised questions to USEPA regarding the proper way to quantify these emissions. IDEM staff noted that the experience of issuing Title V permits has helped the permit

[1] On June 24, 2005, the United States Court of Appeals for the District of Columbia Circuit issued its ruling on challenges to the December 2002 NSR reform revisions. State of New York et al. v. EPA, No. 02-1387, 2005 WL 1489698. Although the Court did uphold most of EPA's rules, it vacated both the Clean Unit and the Pollution Control Project provisions.

writers get a better understanding of the entire source and have more awareness of increased utilization issues.

Public Notification

We commend Indiana for its public outreach efforts. IDEM maintains a list of interested parties and sends a notification to those on the list when the state anticipates public interest in a source. Citizens can contact IDEM to be added to this list and can be listed for a particular source or for a particular county. Indiana does not send out e-mail notifications at this time, but would like to begin doing this in the near future.

According to Indiana staff, the state has always granted extensions to the public comment period when requested to do so. USEPA's experience in working with IDEM supports this statement. When IDEM extends a public review period, it publishes a legal advertisement in the same general circulation newspaper that published the original public notice. Indiana will also schedule a public hearing upon request or when the state anticipates public interest in a proposed permit. A public hearing calendar is included on IDEM's website[2]. The state also has held informational meetings or attended community meetings regarding sources of public interest. IDEM participated in these type of community meetings for the proposed PSD permit for Steel Dynamics in Whitley County.

Indiana has helped make permit documents accessible to the public by posting public notice letters and draft and final permits on the IDEM website[3]. In addition, the IDEM website includes application forms, program information, public participation information, policy and guidance documents, and rules. IDEM's file room is open to the public and the state will send information upon request. IDEM waives photocopy charges whenever possible for citizens pursuant to a public interest clause that allows the state to waive these costs. Permit documents are also available at the local library in the town closest to the permitting activity location.

Public Participation

Indiana has developed three multimedia environmental publications for citizens that are written in plain English. The most detailed

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[2] http://www.in.gov/serv/eventcal?PF=idem&Clist=16_153_154_155_156.

[3] http://www.in.gov/idem/air/permits/Air-Permits-Online/index.html.

document is "IDEM's Guide for Citizen Participation." A condensed version of this guide is also available and titled "Getting Involved in Environmental Decision Making: Highlights from IDEM's Guide for Citizen Participation." IDEM also has a brochure available titled "How To Participate in Environmental Decision Making." Each of these publications are available on IDEM's website[4].

Public Training Opportunities
IDEM has provided state-wide workshops and mini-workshops on NSR. In 2004, IDEM conducted several NSR Reform workshops for industry. Indiana held NSR citizen training in June 2002. In late 2003, the state held a workshop on IDEM's permitting process.

B. Areas for Improvement

Permit Notification
Indiana's merged Title V and NSR process makes it difficult for USEPA to identify some PSD permits because they are labeled as Title V permits. For example, the draft combined PSD and Title V permit for Casting Services which was sent to USEPA in November 2004 was labeled in the Indiana permit database[5] only as a Title V permit. IDEM has been working with USEPA to address this concern. In recent months, subsequent to our August 2004 program evaluation, IDEM has developed a list of PSD permit applications currently being processed by the state. IDEM and USEPA are now discussing the status of these pending permits at regularly scheduled monthly conference calls.

Routine Maintenance, Repair, and Replacement (RMRR)
According to IDEM's questionnaire response regarding the cost factor in a RMRR evaluation, the state compares the cost of the project to the total amount spent on maintenance for that unit in each of the past 5-10 years. This approach is not entirely consistent with the way USEPA considers cost as a factor in whether a project is routine. A more technically reasonable and accurate way to take into consideration maintenance expenditures in a cost analysis is to compare the cost of the project to the average yearly maintenance cost of the component undergoing modification.

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[4] http://www.in.gov/idem/environmentaljustice

[5] The Indiana permit database can be access via the Internet at http://www.epa.gov/region5/air/permits/inonline.htm.

As mentioned below, Indiana stated in its questionnaire response that good guidance is not available from USEPA on how to conduct a RMRR cost evaluation. In response, USEPA does not rely on cost evaluation alone to determine whether a project qualifies for a RMRR exemption. Cost is one of four factors considered in evaluating RMRR eligibility. Since RMRR determinations are case-specific and rely on multiple factors, guidance on conducting a RMRR cost evaluation is not practical.

IDEM stated in the program evaluation questionnaire response regarding the frequency factor in a RMRR evaluation that it considers the history of the specific unit, of other similar units at the same facility, and of similar units at other facilities in the same industry. IDEM should place a greater emphasis on a specific unit's history compared to the history of other units when making this analysis.

Tracking Synthetic Minor Permits
Indiana tracks all minor permits, but does not track them specifically as synthetic minor permits. IDEM believes this would be difficult because there are differing definitions of synthetic minor. For example, some count post-controls emissions in determining whether or not a source is minor while others consider pre-controls emissions.

NAAQS Inventory
Indiana bases emission rates provided in national ambient air quality standard (NAAQS) inventories on actual emissions. According to the 1990 draft NSR Workshop Manual (page C.45), the emission rate for the proposed source or modification must reflect the maximum allowable operating conditions. IDEM's approach is not consistent with USEPA's policy.

Class I Impacts Analysis
Indiana conducts a Class I impact analysis for PSD sources located within 100 km of a Class I area. States should consider possible Class I area impacts for PSD sources within at least 200 km from Class I areas and up to 300 km from Class I areas for large sources. The Calpuff model, now used routinely for Class I analyses, is appropriate for those distances. USEPA officially approved Calpuff for long range transport on April 15, 2003 (68 FR 18440). The Federal Land Managers (FLMs) are responsible for Class I area analyses, and their guidance recommends the use of the Calpuff model. The FLMs should be informed of proposed sources which could impact Class I areas, and they will help to

determine whether a full Calpuff analysis is necessary. Class I analyses should no longer be routinely dismissed simply because a proposed source is greater than 100 km from Class I areas.

Best Available Control Technology (BACT) Cost Analysis Documentation

USEPA has reviewed PSD permits from IDEM that did not include full documentation that explained the selection of an option other than the top control technology as BACT. We recognize that Indiana has established many positive practices for conducting a BACT analysis and puts significant effort into the process. However, the state needs to improve documentation of BACT analysis determinations in PSD permits. A recent example is the documentation for the INTAT Precision PSD permit (permit number 139-17898, issued April 6, 2004). The documentation for the permit that was submitted to EPA did not include a description of the BACT analysis conducted for this source. In another example, the PSD permit documentation for Cooper-Standard Automotive (permit number 033-17701, issued February 17, 2004) submitted to EPA also did not include a description of the BACT analysis conducted for this source.

Entering BACT and Lowest Achievable Emissions Rate (LAER) Determinations in the RACT/BACT/LAER Clearinghouse (RBLC)

Indiana is a few years behind schedule in entering data into the RBLC. USEPA is concerned about this delay in data entry because it results in situations where currently acceptable BACT limits are not listed in the RBLC. Delays in RBLC data entry will hinder permitting authorities' ability to conduct a complete BACT analysis. Indiana notes a few obstacles to timely RBLC entry. First, with online entries, only one person on staff at IDEM was allowed access to input data into the RBLC. The data entry requires technical knowledge of BACT issues and could not be assigned to administrative staff. This created a large workload burden for one of IDEM's technical staff. At this time, IDEM does not have anyone approved for online access. Data can also be entered into the RBLC by submitting forms to USEPA. However, IDEM has found the forms for adding data to the RBLC difficult to use.

Visibility Impacts Analysis

Indiana does not include a local visibility impact analysis as part of a PSD or major NSR permit. This provision is discussed on page D.5 of the 1990 NSR Workshop Manual and is intended to provide an opportunity to correct certain operating practices that may represent hazardous conditions.

Test Method Identification
Indiana typically does not identify a specific test method to demonstrate compliance with a SIP or BACT/LAER emissions limit in construction permits. The permit allows the emissions test method to be established after the source commences operation. USEPA's concern with this practice is that it avoids public and USEPA review of a source's emissions test method. Since the test method is not provided in the permit until after permit issuance, reviewers are not given an opportunity to comment on the selection.

File Review
As part of the program evaluation, USEPA conducted a review of IDEM's files for five construction permits. USEPA found the files to be disorganized. Documentation from inspections, violations, emission reports, and previous construction permit activities were included in the same file. This made it difficult to find documentation for a specific permitting action. A more specific summary of the file review is in Appendix B of this report.

C. Other Noted Aspects of the Program

Emissions Credit Registry
In July 2004, Indiana established an "Emission Credit Registry" to track nonattainment NSR offset credits. This was motivated by the new 8-hour ozone standard which established 22 new nonattainment counties in Indiana. Prior to the 8-hour ozone standard and since 1990, Indiana had issued only a few nonattainment permits. Sources can use this registry to search for available credits. IDEM reviews each credit transaction, but is not involved in the actual sale between two sources.

Nonattainment NSR Offset Credits
Indiana's nonattainment NSR offset credits expire after five years. This differs from the federal offset requirements which do not have an expiration date.

Minor modification public notice
Indiana requires a 30-day public comment period for minor source construction permits with emissions above 25 tons per year. Sources with modifications below 25 tons per year qualify for a registration from the state and are not subject to public notice requirements.

V. Recommendations

Permit Notification
USEPA recommends that IDEM continue to provide Region 5 with monthly updates of pending PSD and major NSR permits and associated issues. These updates help identify to EPA the PSD permit applications that IDEM is processing. This helps EPA better communicate with IDEM on PSD permit issues and will result in more timely resolution of permit issues. EPA also recommends that IDEM clearly identify all PSD and major NSR permits as such in permits that are drafted for public or EPA review. For the electronic versions of PSD and major NSR permits that are submitted to EPA for review and posted on the Internet for public access, EPA recommends that IDEM assure that each document contain the BACT analysis and necessary information to allow for a complete review by interested parties.

Routine Maintenance, Repair, and Replacement
IDEM's responses to RMRR cost and frequency evaluation factors are not entirely consistent with USEPA's interpretation of the CAA. USEPA recommends that IDEM work closely with Region 5 regarding RMRR analyses to assure there is a consistent approach to conducting such determinations.

Entering BACT/LAER Determinations in the RBLC
USEPA appreciates IDEM's input on difficulties in using the RBLC. It is important, however, to keep the RBLC updated. This clearinghouse serves as an important resource in conducting a BACT or LAER analysis. RBLC entries are used in the federal PSD and NSR rules to establish BACT/LAER comparability for purposes of qualifying for clean unit status. The absence of the most recent BACT determinations in the RBLC may lead to higher BACT limits established at other sources. USEPA recommends that IDEM keep RBLC entries updated.

Test Method Identification
Permits must identify test methods used to determine compliance. As a result of IDEM's practice of establishing the test method after permit issuance, there is no opportunity for permit reviewers (including the public) to comment on the test method that is ultimately selected to determine compliance with permit emission limits.

Tracking Synthetic Minor Permits
Although the federal rules do not require states to specifically track synthetic minor limits, the failure to do so makes it more difficult for states to assure compliance with PSD/NSR requirements. If synthetic minor permits are not specifically tracked, it may be difficult for a state to know which sources could trigger the requirements of 40 CFR 52.21(r)(4) upon relaxation of permitted limits. USEPA recommends that Indiana establish a method to properly track synthetic minor permits.

NAAQS Inventory
Indiana is not satisfying the USEPA Guideline on Air Quality Models by using actual emissions for NAAQS inventories. USEPA understands that IDEM's use of actual emissions is driven by availability of data and not the state's preference on tracking the NAAQS inventory. Nonetheless, IDEM's approach is not consistent with USEPA's policy. To be consistent with USEPA policy, IDEM must based NAAQS inventories on emission rates that reflect the maximum allowable operating conditions.

Visibility Impacts Analysis
Indiana does not include a local visibility impact analysis as part of a PSD or major NSR permit. IDEM does have measures in place which may address this issue indirectly through State opacity and fugitive dust rules. The limits from these rules are set forth in the permits. IDEM believes these rule measures have prevented local visibility problems more than a modeling analysis would have. However, USEPA believes that IDEM must include a visibility impact analysis as part of a PSD or major NSR permit to assure that proposed projects do not create hazardous conditions such as visibility impairments on highways or at airports.

VI. IDEM Comments

Routine Maintenance, Repair, and Replacement
Indiana stated in the program evaluation questionnaire that it believes that good guidance is not available from USEPA on how to conduct a RMRR cost evaluation.

Pollution Control Projects
In response to questionnaire item D.5 which asks how the state handles collateral emission increases in hazardous air pollutants for pollution control projects, Indiana expressed concern that the NSR Reform rulemaking would preclude the state from considering the impact of air toxics emissions from activities that are listed

as presumed to be environmentally beneficial. For example, fuel switching will automatically qualify for pollution control project status, but may result in an increase in mercury emissions.

PSD Program Benefits

Indiana believes that USEPA has downplayed the air quality benefit of NSR during NSR Reform training sessions. The state disagrees with this approach. Indiana believes that imposition of BACT is leading to lower NSPS emission limits and continues to be lower than NSPS. Indiana has a number of permits that have much lower emission rates because they went through a BACT analysis. Because of the BACT analysis requirement, IDEM believes the existing affordable technology that is available is much better than otherwise would exist.

Dalton Foundry is an example of a source that has experienced significant emission reductions as a result of the NSR program. Indiana received numerous public complaints about this facility. The source eventually obtained a PSD permit and, pursuant to the BACT requirement, installed an advanced oxidation system that was the first of its kind in Indiana. This has reportedly eliminated the smoke, odor, and blue haze that once existed in nearby residential neighborhoods.

Availability of Information for BACT Analysis

Although Indiana permits include an economic rationale for rejecting a particular BACT option, the state has difficulty finding sufficient dollars-per-ton information on other sources to conduct a comparative cost analysis. According to IDEM, this is because cost information is typically only available from past permit actions if a control option is rejected. When a source accepts a control option, the costs involved are not documented because justification is not necessary.

Indiana has permits available online and finds it very useful when other states have permits available online. This provides IDEM staff with an efficient way to obtain information about BACT determinations in other states.

Net Air Quality Benefit Modeling Analysis

Indiana stated in its questionnaire response that it did not understand the question regarding a "net air quality benefit modeling analysis" for nonattainment areas. This requirement is codified in 40 CFR Part 51, Appendix S (IV)(A)(4) and referenced in 40 CFR 51.165(a)(3)(ii)(F). Since this requirement does not

apply to ozone nonattainment areas, this issue has not applied to any nonattainment NSR permits issued by Indiana during the time period being evaluated.

Indiana's Experience with Public Notification
Indiana's experience with public notification is that direct mailing is currently the most effective way to provide public notice. However, the state believes that e-mail eventually has the potential to be an equally or more effective tool.

Training Request
Indiana has requested that USEPA provide training to the state staff on limiting potential to emit. Indiana last received USEPA training on this topic about 10 years ago.

NSR Reform Rules
Indiana will be satisfied with the NSR Reform rules if they are successful in focusing on true emissions increases. The state believes that, in most cases, the past-actual to future-potential test does not realistically characterize the effect that a physical change or a change in the method of operation will have on future emissions. However, Indiana does not want the NSR Reform rules to provide loopholes for sources to avoid emission reductions.